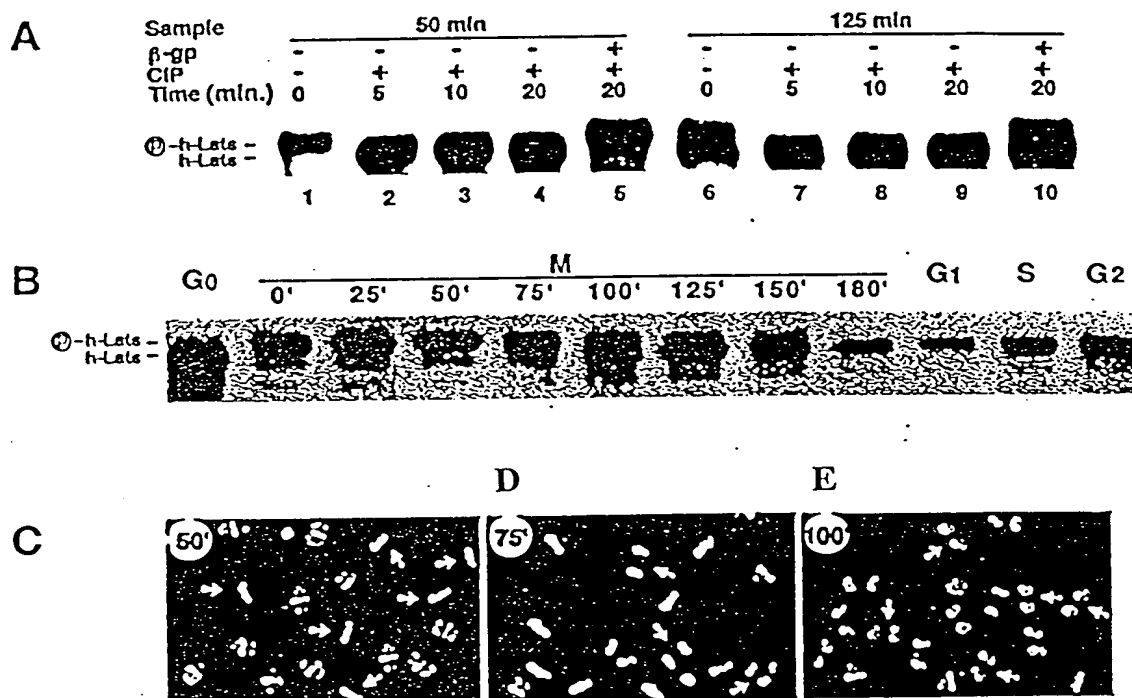
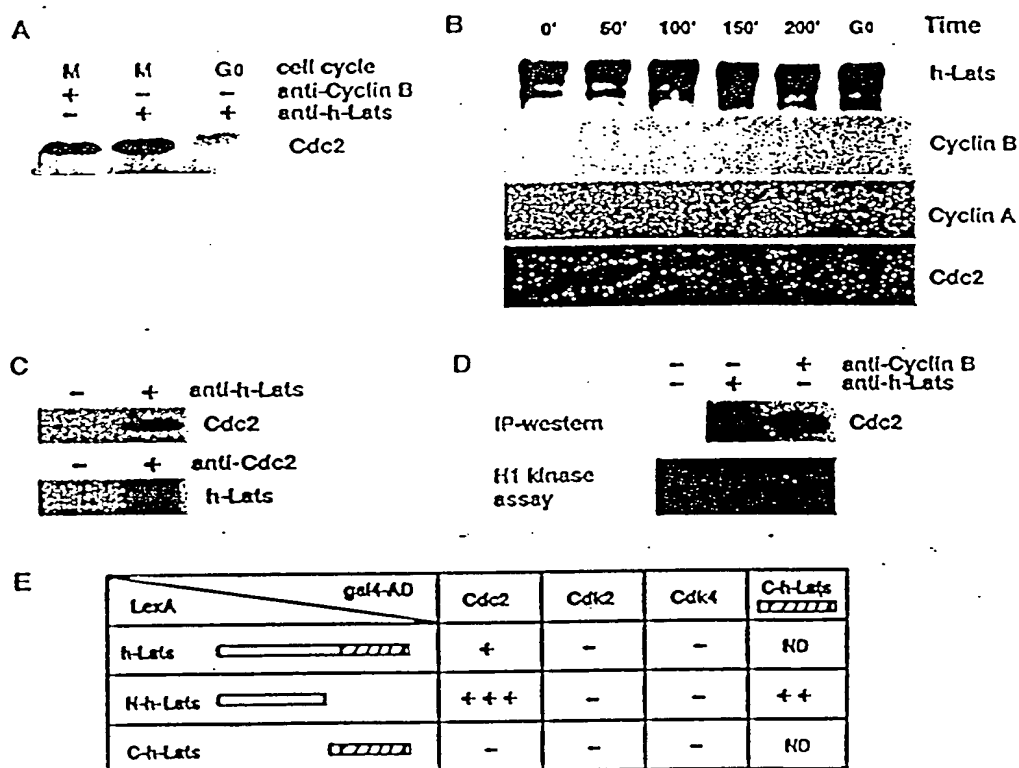


FIGS. 1A-H

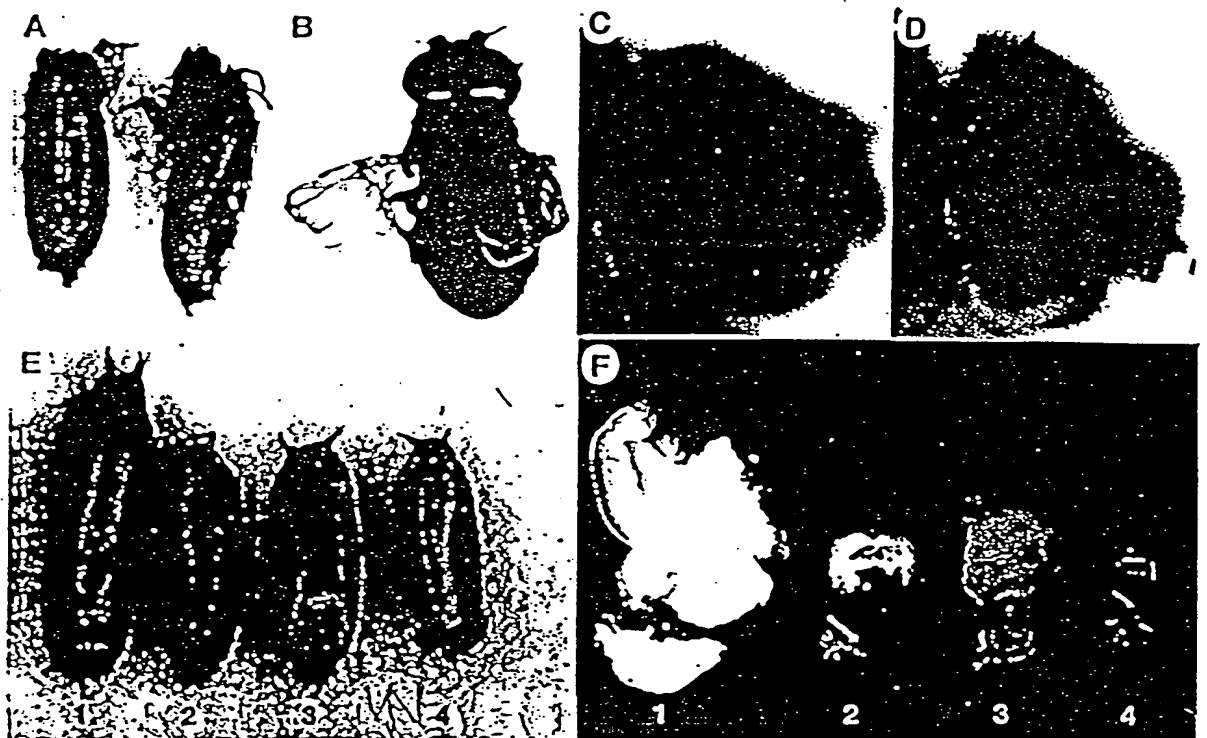
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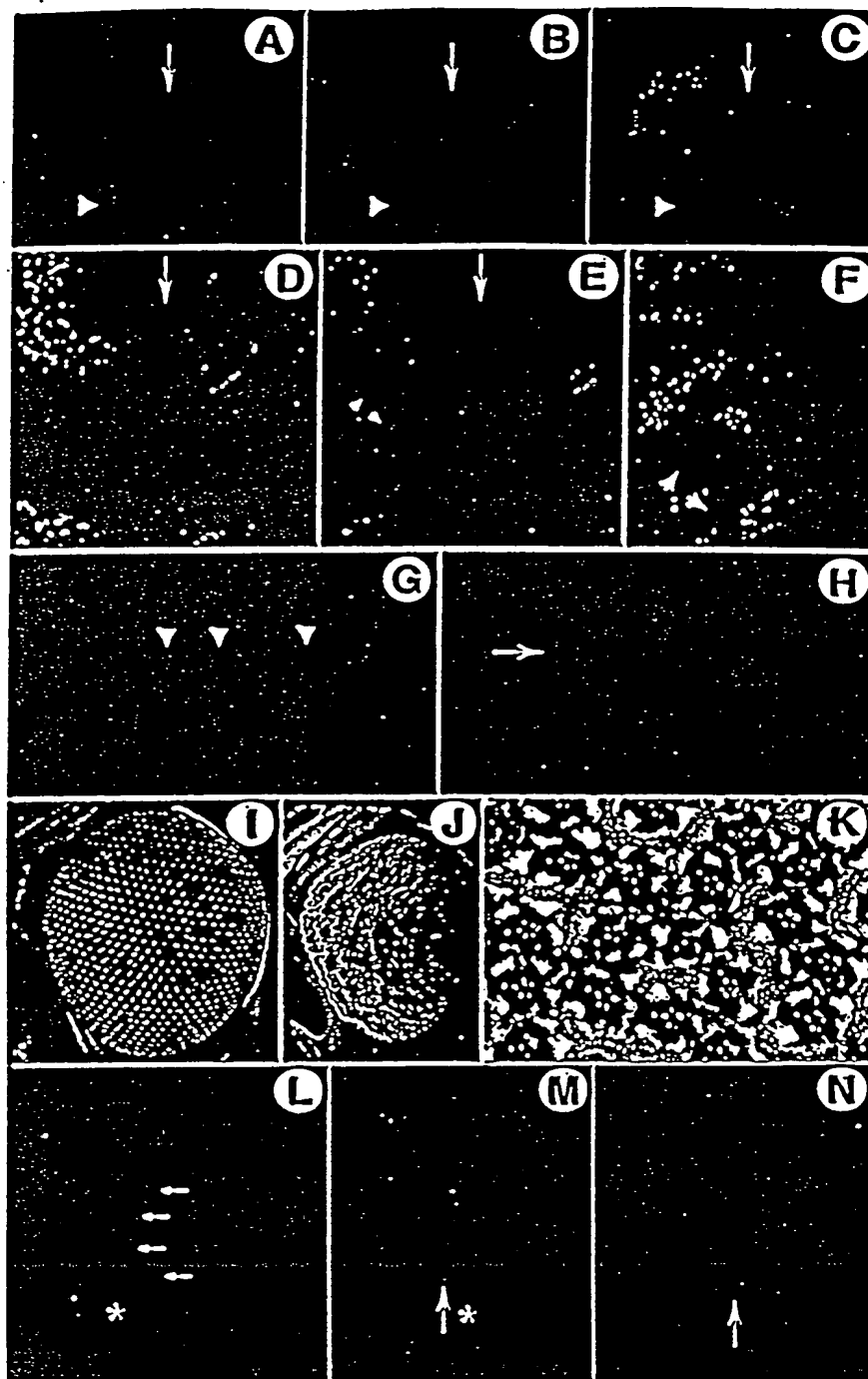
FIGS. 2A-E



FIGS. 3A-E



FIGS. 4A-F

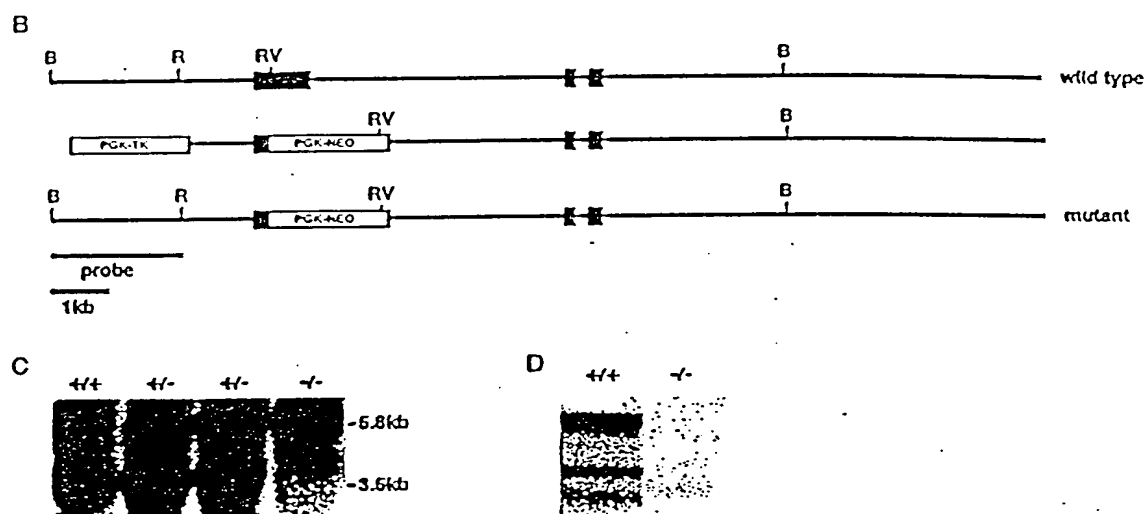


FIGS. 5A-N

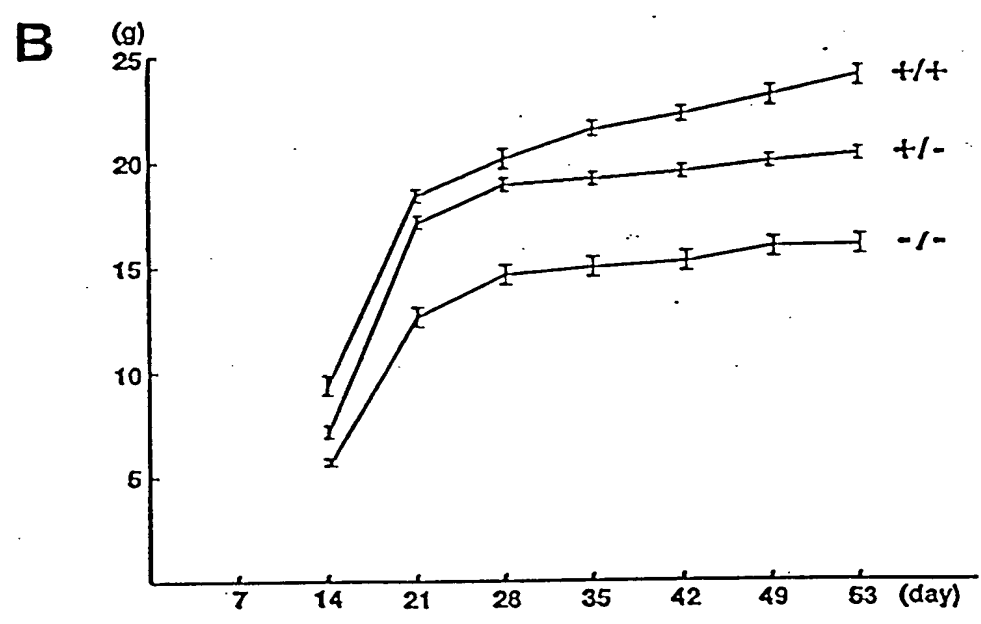
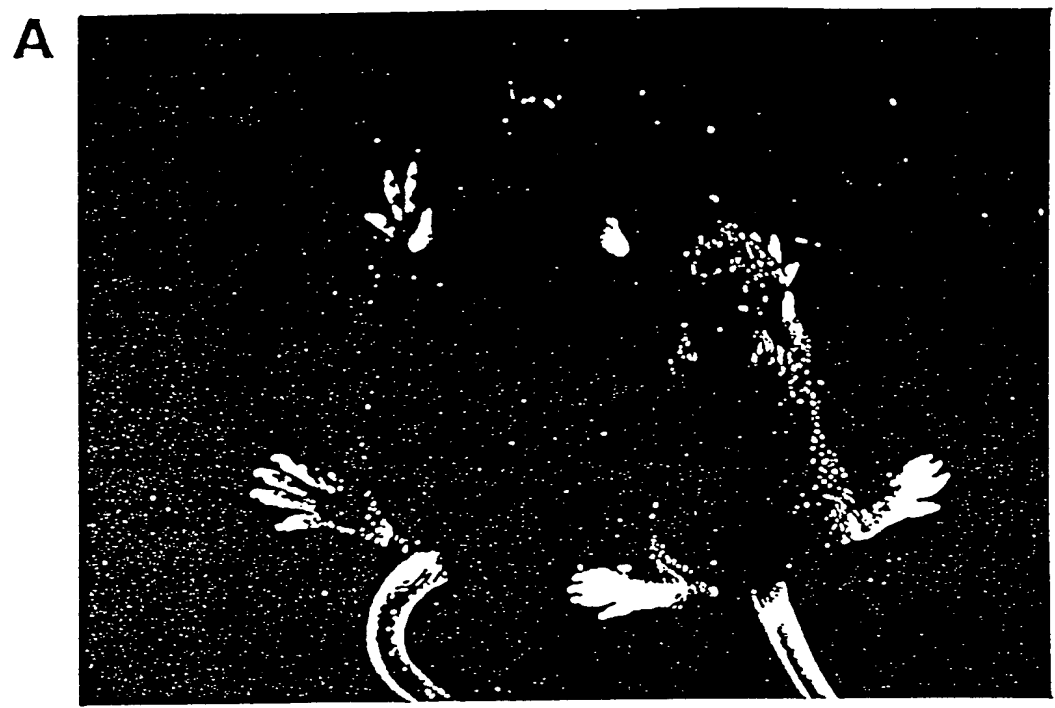
09/763334-000601

1 MKRSEKPEGYRQMRPKT FPASNYTVSSRQMLQE IRESLRNL6KPS DAAKAEHNMSKMST EDPRQVRNPPK h-Lats  
71 FGTHHKALQEI RNSLLPFANETHSSRSTSEVNPOMLQDL QAGFDEDMVIAQALQKTNHRSIEAAIEFISK h-Lats  
141 MSYQOPRREQMAAAAARP I HASMKPGN **VOOSVHHKOSWKGSKESLVPORHGPS** **GENVVVHRES PNSOA** h-Lats  
211 **/GHP LSGSG I A F A JAHPSNGORVNPPPPPOVHSV I PPPPPHGOI PPPHGI I PPPPSW PNSOIKHYSGN** h-Lats  
**/GRPLSGSG I A F A JAHPSNGORVNPPPPPOVRSVTPPPPPRGOT PPPRGIT PPPPSWEPSSOTKRYSGN** m-Lats  
281 MEYVISHISPVPVPGAVOEGYPPPL NISPMNPP N JGJG ISSVPVGHOP IIMSS SKFNFPSHPGMJNG h-Lats  
MEYVISHISPVPVPGAVOEGYPPPI ITSPMNPSSJAJRA ISSVPVGHOP IIMOST KFNFTPRPGVJNG m-Lats  
351 **TEOIJMIHONVVJAITENKOPPPPYPLTAANGOSPSALOTGSAAPSSYI NGS I POSMMVPNNHSHNME** h-Lats  
**GOSDFIVHONV-ITISITROPPPPYPLTPANGOSPSALOTGSAAPSSYI NGS I POSMMVPNNHSHNME** m-Lats  
421 **YNISVPGLQINPOSSSAPAOSSPSJHEIPTWOPNIPVHNSFNPLGNHSHSANSOPSATTIATIT** h-Lats  
**YNINVPGLQINPOSSSAPAOSSPSJHEIPTWOPNIPVHNSFNPLGNHSHSANSOPSATTIATIT** m-Lats  
491 **PAPIQOPVKSMMHVKPELOIALAPIHPSWIPUPIJIVOPSPPFEGIASNVTYPPVAEAPNYOGPPPPYP** h-Lats  
**PAPIQOPVKSMMHVKPELOIALAPIHPSWIPUPIJIVOPSPPFEGIASNVTYPPVAEAPNYOGPPPPYP** m-Lats  
561 **KHLLHONPSVPPYESISKPSKEDJPSLPKEDSEKSYENVJSGDKEKKOITTSPI TVRKNKKDEERRESR** h-Lats  
**KHLLHONPSVPPYESISKPSKEDJPSLPKEDSEKSYENVJSGDKEKKOITTSPI TVRKNKKDEERRESR** m-Lats  
631 **IOSYSPOAFKPFMEOHVENVLKSHOORLHKKOLENEMMHVGLSODAODOMHMKMLCOKE SNYIHLKRAKM** h-Lats  
**IOSYSPOAFKPFMEOHVENVLKSHOORLHKKOLENEMMHVGLSODAODOMHMKMLCOKE SNYIHLKRAKM** m-Lats  
701 **JKSMFVKIKTLGIGAFGEVCLARKVDIKALYATKILHKKDVLRLNOVAHVKAERDILAEADNEWVWRLYY** h-Lats  
**JKSMFVKIKTLGIGAFGEVCLARKVDIKALYATKILHKKDVLRLNOVAHVKAERDILAEADNEWVWRLYY** m-Lats  
771 **SFODKONLYFVMDYIPGGDMMSLIRMGIFPENLARFYIAELTCAVESVHKMGFIHRDIKPDNIIIDRG** h-Lats  
**SFODKONLYFVMDYIPGGDMMSLIRMGIFPENLARFYIAELTCAVESVHKMGFIHRDIKPDNIIIDRG** m-Lats  
841 **HIKLTDFGLCTGFHWTHDSKYOSGDHPRODSDMF SNEWGDPS S HCGDHLKPLEHRAAHOHCHLAHSL** h-Lats  
**HIKLTDFGLCTGFHWTHDSKYOSGDHPRODSDMF SNEWGDPS S HCGDHLKPLEHRAAHOHCHLAHSL** m-Lats  
911 **JGIPNYIAPEVLLRIGYTOLCDWWSVGVI L EMLVGOPPLAOTPLEIOMKVIINWOTSLHIPPOAKLSPE** h-Lats  
**JGIPNYIAPEVLLRIGYTOLCDWWSVGVI L EMLVGOPPLAOTPLEIOMKVIINWOTSLHIPPOAKLSPE** m-Lats  
981 **ASDLIKLCRGPEORLGKNGADEIKAHPPFKITDFSSDLROOSASYIPKITHPTDTSNFDVPDPKLWSD** h-Lats  
**ASDLIKLCRGPEORLGKNGADEIKAHPPFKITDFSSDLROOSASYIPKITHPTDTSNFDVPDPKLWSD** m-Lats  
1051 **ONEEENVNDILNGWYKNGKHP EHAFFEFTFRHF FODNGYPYNYPKPIEY EYINSGSEEOOSDEDDONIGS** h-Lats  
**ONEEENVNDILNGWYKNGKHP EHAFFEFTFRHF FODNGYPYNYPKPIEY EYINSGSEEOOSDEDDONIGS** m-Lats  
1121 **EIKHNDLVVV** h-Lats  
**DGNHNDLVVV** m-Lats

FIG. 6A



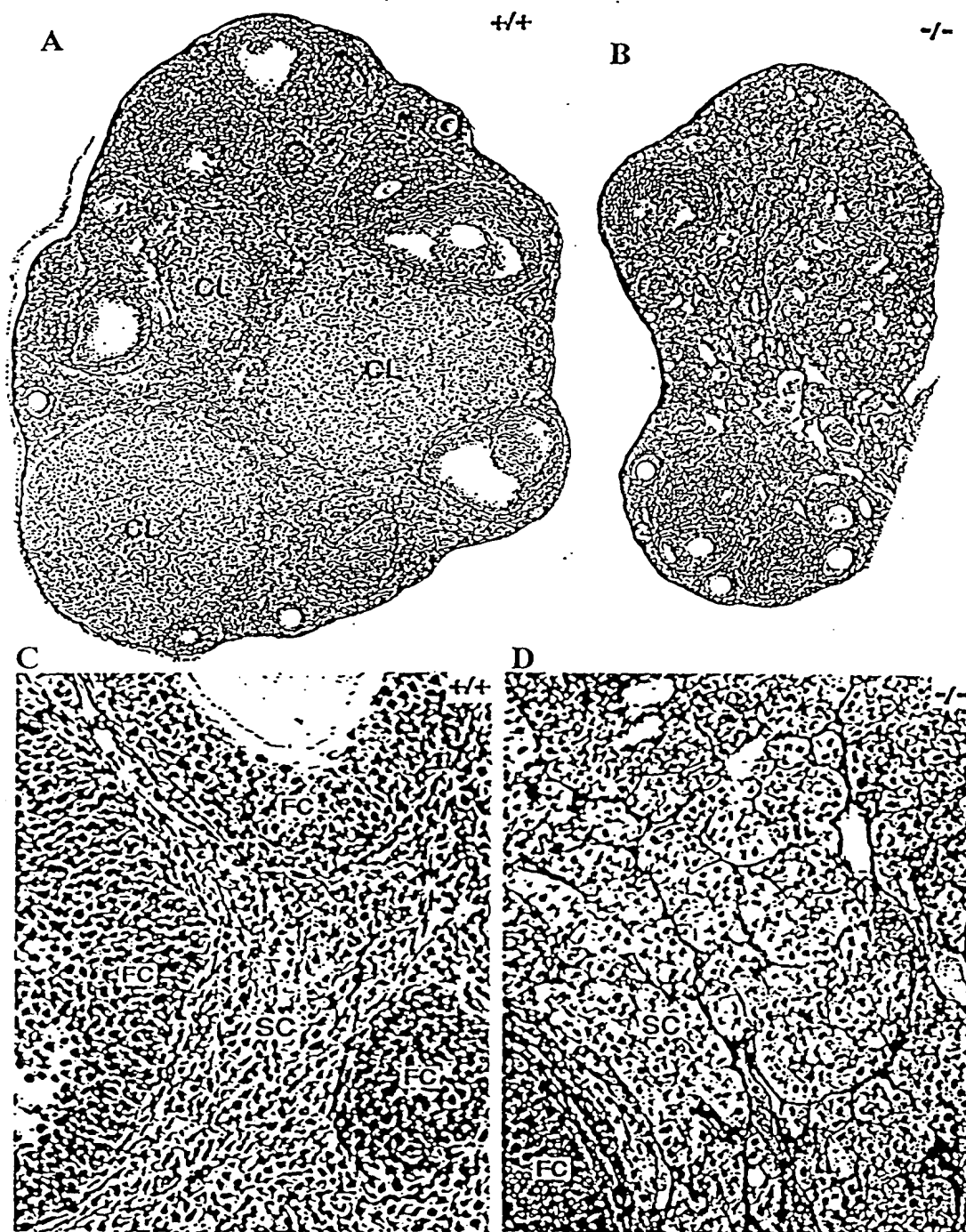
FIGS. 6B-D



**FIGS. 7A-B**

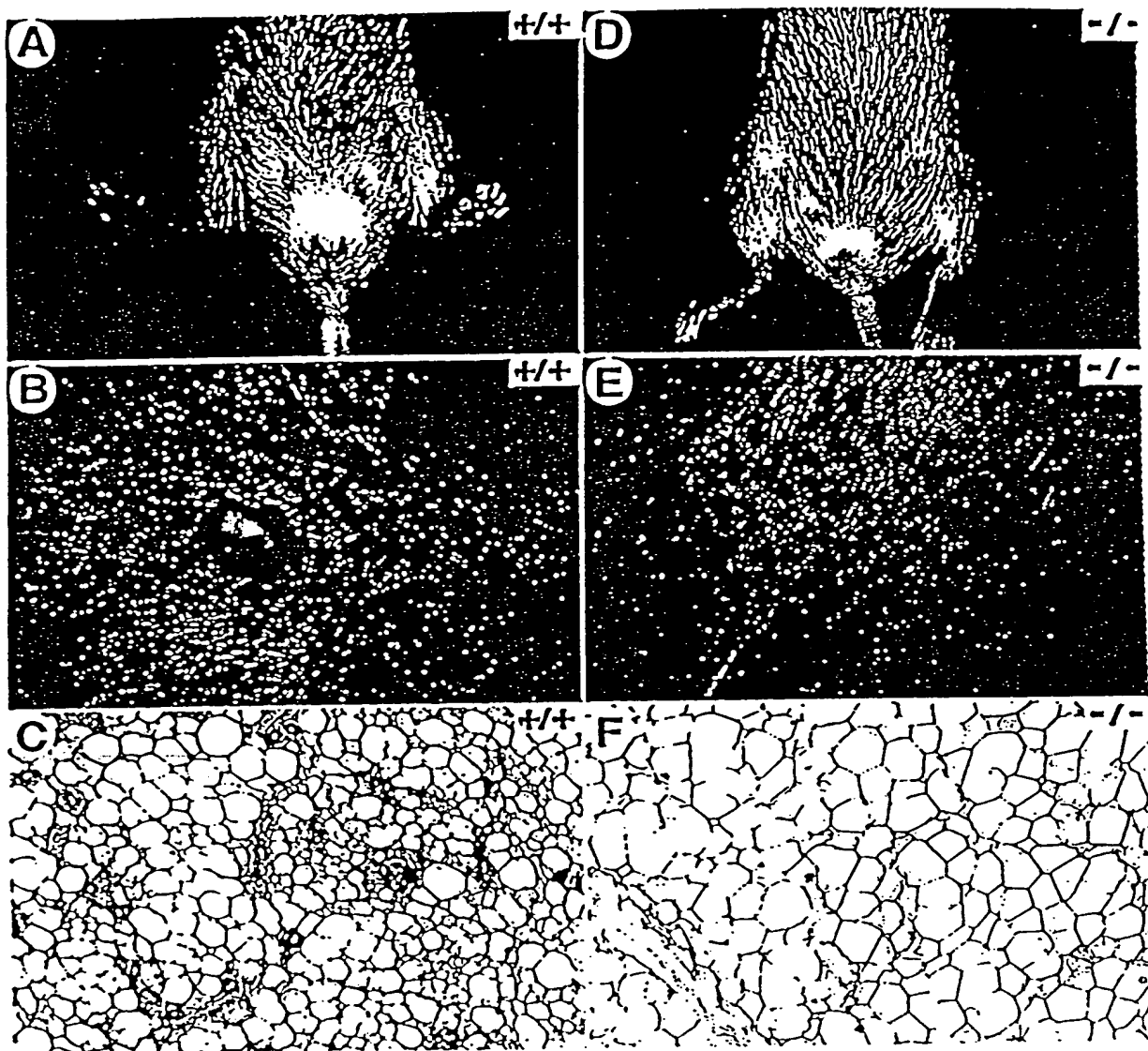
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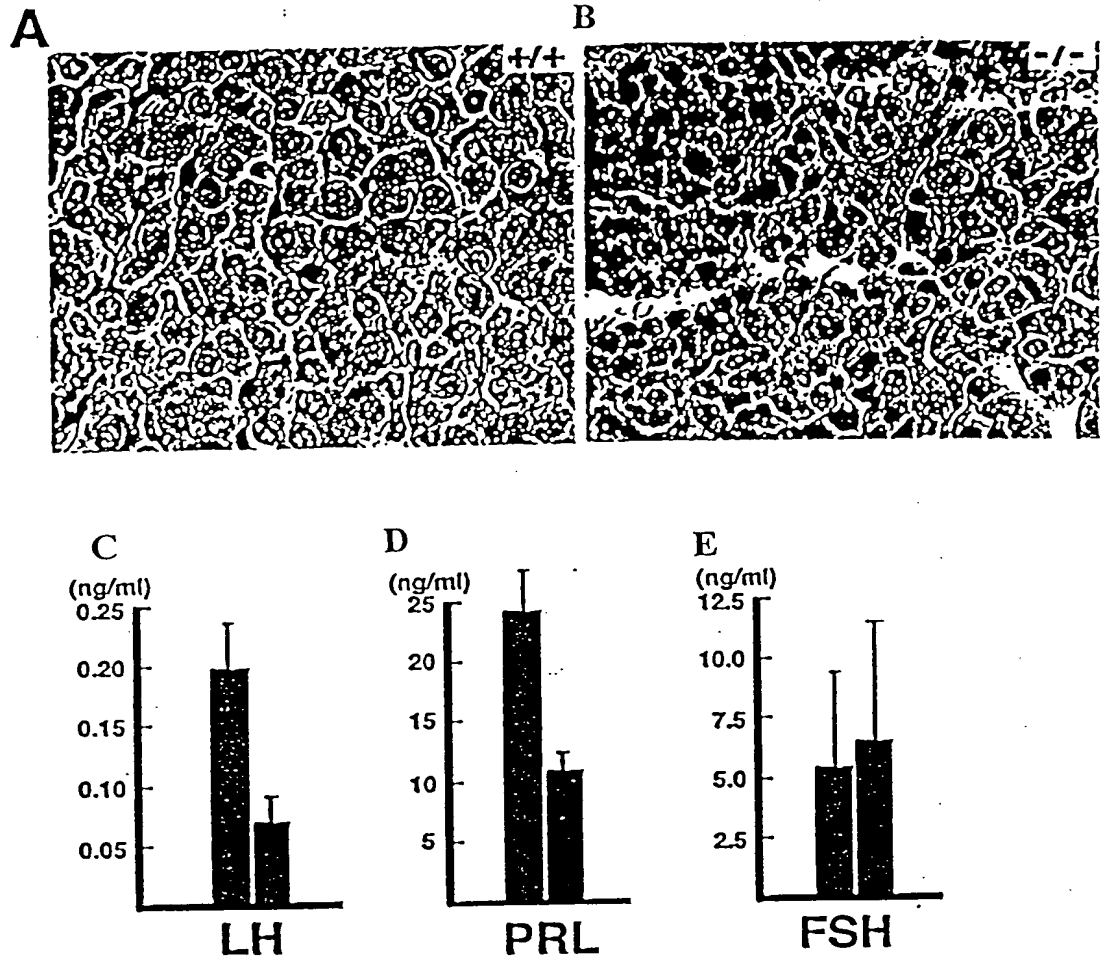


FIGS. 8A-D

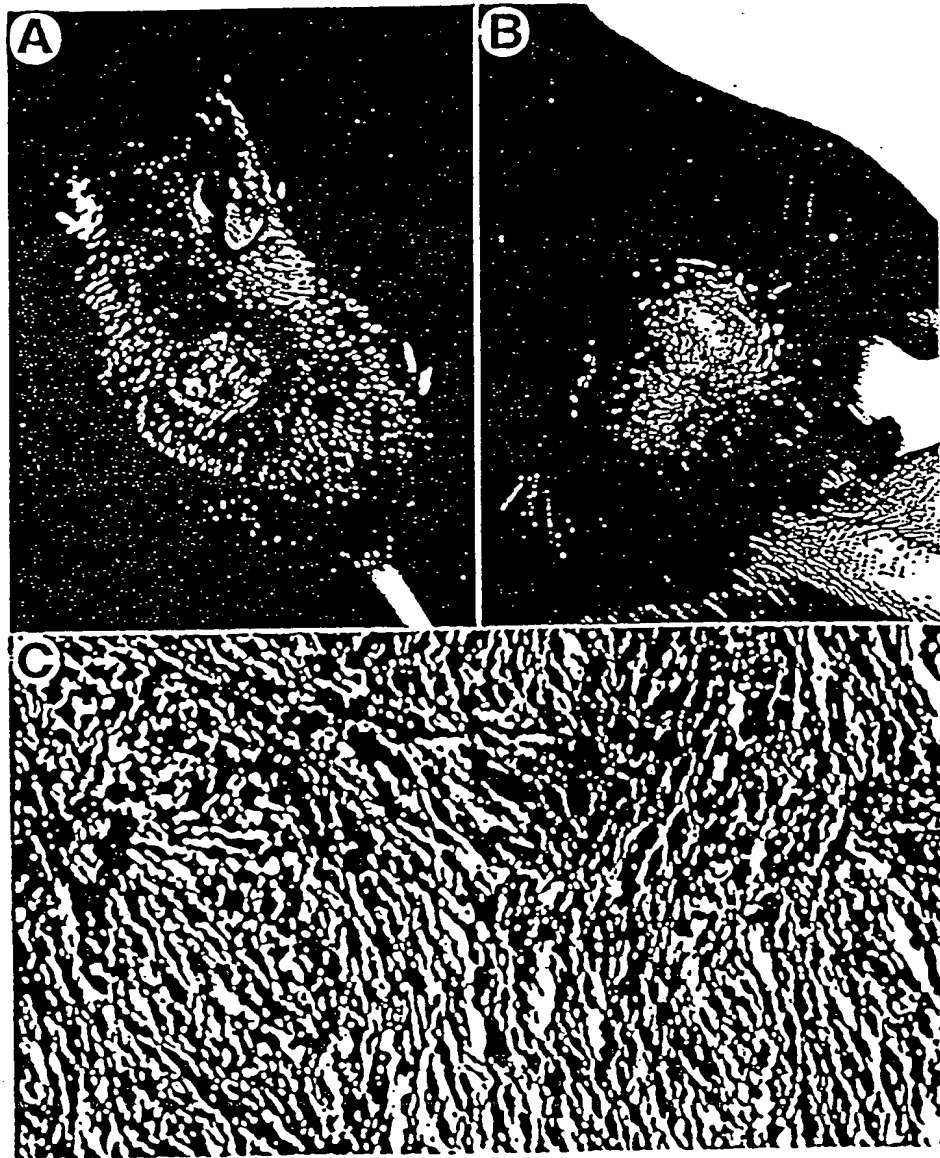
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FIGS. 9A-F



FIGS. 10A-E



FIGS. 11A-C

09763334-080604

10	20	30	40	50	60	70	80
ACCTTTGGGT	TGCTGGGACG	GACTCTGGCC	GCCTCAGCGT	CCGCCCTCAG	GCCCGTGGCC	GCTGTCCAGG	AGCTCTGCTC
90	100	110	120	130	140	150	160
TCCCTCCAG	AGTTAATTAT	TTATATTGTA	AAGAATTTTA	ACAGTCCTGG	GGACTTCCTT	GAAGGATCAT	TTTCACTTTT
170	180	190	200	210	220	230	240
GCTCAGAAGA	AAGCTCTGGA	TCTATCAAAT	AAAGAAGTCC	TTCGTGTGGG	CTACATATAT	AGATGTTTTT	ATGAAGAGGA M K R
250	260	270	280	290	300	310	320
GTGAAAAGCC	AGAAGGATAT	AGACAAATGA	GGCCTAAGAC	CTTCTCTGCC	AGTAACTATA	CTGTCAGTAG	CCGGCAAATG S E K P E G Y R Q M R P K T F P A S N Y T V S S R Q M
330	340	350	360	370	380	390	400
TTACAAGAAA	TTCGGGAATC	CCTTAGGAAT	TTATCTAAAC	CATCTGATGC	TGCTAAGGCT	GAGCATAACA	TGAGTAAAT L Q E I R E S L R N L S K P S D A A K A E H N M S K M
410	420	430	440	450	460	470	480
GTCAACCGAA	GATCCTCGAC	AAGTCAGAAA	TCCACCCAAA	TTGGGACGC	ATCATAAAGC	CTTGCAGGAA	ATTGAAACT S T E D P R Q V R N P P K F G T H H K A L Q E I R N
490	500	510	520	530	540	550	560
CTCTGCTTCC	ATTGCAAAT	GAAACAAATT	CTTCTGGAG	TACTTCAGAA	GTAAATCCAC	AAATGCTTCA	AGACTTGCAA S L L P F A N E T N S S R S T S E V N P Q M L Q D L Q
570	580	590	600	610	620	630	640
GCTGCTGGAT	TTGATGAGGA	TATGGTTATA	CAAGCTCTTC	AGAAAATAA	CAACAGAAGT	ATAGAAGCAG	CAATTGAATT A A G F D E D M V I Q A L Q K T N N R S I E A A I E F
650	660	670	680	690	700	710	720
CATTAGTAAA	ATGAGTTACC	AAGATCCTCG	ACGAGAGCAG	ATGGCTGCAG	CAGCTGCCAG	ACCTATTAAT	GCCAGCATGA I S K M S Y Q D P R R E Q M A A A A A R P I N A S M
730	740	750	760	770	780	790	800
AACCAGGGAA	TGTGCAGCAA	TCAGTTAACC	GCAAACAGAG	CTGGAAGGT	TCTAAAGAAT	CCTTAGTTCC	TCAGAGGCAT K P G N V Q Q S V N R K Q S W K G S K E S L V P Q R H
810	820	830	840	850	860	870	880
GGCCCCGCCAC	TAGGAGAAAG	TGTGGCCTAT	CATTCTGAGA	GTCCCAACTC	ACAGACAGAT	GTAGGAAGAC	CTTGTCTGG G P P L G E S V A Y H S E S P N S Q T D V G R P L S G
890	900	910	920	930	940	950	960
ATCTGGTATA	TCAGCATTTG	TTCAAGCTCA	CCCTAGCAAC	GGACAGAGAG	TGAACCCCCC	ACCAACACCT	CAAGTAAGGA S G I S A F V Q A H P S N G Q R V N P P P P P Q V R
970	980	990	1000	1010	1020	1030	1040
GTGTTACTCC	TCCACCACT	CCAAGAGGCC	AGACTCCCCC	TCCAAGAGGT	ACAACCTCAC	CTCCCCCTTC	ATGGGAACCA S V T P P P P P R G Q T P P P R G T T P P P P S W E P

FIG. 12

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1050 * AACTCTCAAA N S Q	1060 * CAAAGCGCTA T K R Y	1070 * TTCTGGAAAC S G N	1080 * ATGGAATACG M E Y	1090 * TAATCTCCCG V I S R	1100 * AATCTCTCCT I S P	1110 * GTCCACCTG V P P	1120 * GGGCATGGCA G A W Q
1130 * AGAGGGCTAT E G Y	1140 * CCTCCACCAC P P P	1150 * CTCTCAACAC P L N T	1160 * TTCCCCCATG S P M	1170 * AATCCTCCTA N P P	1180 * ATCAAGGACA N Q G Q	1190 * GAGAGGCATT R G I	1200 * AGTTCTGTTC S S V
1210 * CTGTTGGCAG P V G R	1220 * ACAACCAATC Q P I	1230 * ATCATGCAGA I M Q	1240 * GTTCTAGCAA S S S K	1250 * ATTTAACTTT F N F	1260 * CCATCAGGGA P S G	1270 * GACCTGGAAT R P G M	1280 * GCAGAATGGT Q N G
1290 * ACTGGACAAA T G Q	1300 * CTGATTTCAT T D F M	1310 * GATACACCAA I H Q	1320 * AATGTTGTCC N V V	1330 * CTGCTGGCAG P A G T	1340 * TGTGAATCGG V N R	1350 * CAGCCACCAC Q P P	1360 * CTCCATATCC P P Y P
1370 * TCTGACAGCA L T A	1380 * GCTAATGGAC A N G	1390 * AAAGCCCTTC Q S P S	1400 * TGCTTTACAA A L Q	1410 * ACAGGGGGAT T G G	1420 * CTGCTGCTCC S A A P	1430 * TTCGTCATAT S S Y	1440 * ACAAATGGAA T N G
1450 * GTATTCTCA S I P Q	1460 * GTCTATGATG S M M	1470 * GTGCCAAACA V P N	1480 * GAAATAGTCA R N S H	1490 * TAACATGGAA N M E	1500 * CTATATAACA L Y N	1510 * TTAGTGTACC I S V P	1520 * TGGACTGCAA G L Q
1530 * ACAAATTGGC T N W	1540 * CTCAGTCATC P Q S S	1550 * TTCTGCTCCA S A P	1560 * GCCCAGTCAT A Q S	1570 * CCCCGAGCAG S P S S	1580 * TGGGCATGAA G H E	1590 * ATCCCTACAT I P T	1600 * GGCAACCTAA W Q P N
1610 * CATACCAGTG I P V	1620 * AGGTCAAATT R S N	1630 * CTTTTAATAA S F N N	1640 * CCCATTAGGA P L G	1650 * AATAGAGCAA N R A	1660 * GTCACTCTGC S H S A	1670 * TAATTCTCAG N S Q	1680 * CCTTCTGCTA P S A
1690 * CAACAGTCAC T T V T	1700 * TGCAATTACA A I T	1710 * CCAGCTCCTA P A P	1720 * TTCAACAGCC I Q Q P	1730 * TGTGAAAAGT V K S	1740 * ATGCGTGTAT M R V	1750 * TAAAACCAGA L K P E	1760 * GCTACAGACT L Q T
1770 * GCTTTAGCAC A L A	1780 * CTACACACCC P T H P	1790 * TTCTTGATA S W I	1800 * CCACAGCCAA P Q P	1810 * TTCAAACGTG I Q T V	1820 * TCAACCCAGT Q P S	1830 * CCTTTTCTCG P F P	1840 * AGGGAACCGC E G T A
1850 * TTCAAATGTG S N V	1860 * ACTGTGATGC T V M	1870 * CACCTGTTGC P P V A	1880 * TGAAGCTCCA E A P	1890 * AACTATCAAG N Y Q	1900 * GACCACCACC G P P P	1910 * ACCCTACCCA P Y P	1920 * AAACATCTGC K H L
1930 * TGCACCAAAA L H Q N	1940 * CCCATCTGTT P S V	1950 * CCTCCATACG P P Y	1960 * AGTCAATCAG E S I S	1970 * TAAGCCTAGC K P S	1980 * AAAGAGGATC K E D	1990 * AGCCAAGCTT Q P S L	2000 * GCCCAAGGAA P K E
2010 * GATGAGAGTG D E S	2020 * AAAAGAGTTA E K S Y	2030 * TGAAAATGTT E N V	2040 * GATAGTGGGG D S G	2050 * ATAAAGAAAA D K E K	2060 * GAAACAGATT K Q I	2070 * ACAACTTCAC T T S	2080 * CTATTACTGT P I T V

FIG. 12 (cont.)

2090	2100	2110	2120	2130	2140	2150	2160
TAGGAAAAAC	AAGAAAGATG	AAGAGCGAAG	GGAATCTCGT	ATTCAAAGTT	ATTCTCCTCA	AGCATTAAAA	TTCTTTATGG
R K N	K K D	E E R R	E S R	I Q S	Y S P Q	A F K	F F M
2170	2180	2190	2200	2210	2220	2230	2240
AGCAACATGT	AGAAAATGTA	CTCAAATCTC	ATCAGCAGCG	TCTACATCGT	AAAAACAAT	TAGAGATGA	AATGATGCGG
E Q H V	E N V	L K S	H Q Q R	L H R	K K Q	L E N E	M M R
2250	2260	2270	2280	2290	2300	2310	2320
GTTGGATTAT	CTCAAGATGC	CCAGGATCAA	ATGAGAAAGA	TGCTTTGCCA	AAAAGAATCT	AATTACATCC	GTCTTAAAG
V G L	S Q D A	Q D Q	M R K	M L C Q	K E S	N Y I	R L K R
2330	2340	2350	2360	2370	2380	2390	2400
GGCTAAAATG	GACAAGTCTA	TGTTTGTGAA	GATAAAGACA	CTAGGAATAG	GAGCATTGGG	TGAAGTCTGT	CTAGCAAGAA
A K M	D K S	M F V K	I K T	L G I	G A F G	E V C	L A R
2410	2420	2430	2440	2450	2460	2470	2480
AAGTAGATAC	TAAGGCTTTG	TATGCAACAA	AAACTCTTCG	AAAGAAAGAT	GTTCTTCTTC	GAAATCAAGT	CGCTCATGTT
K V D T	K A L	Y A T	K T L R	K K D	V L L	R N Q V	A H V
2490	2500	2510	2520	2530	2540	2550	2560
AAGGCTGAGA	GAGATATCCT	GGCTGAAGCT	GACAATGAAT	GGGTAGTTTCG	TCTATATTAT	TCATTCCAAG	ATAAGGACAA
K A E	R D I L	A E A	D N E	W V V R	L Y Y	S F Q	D K D N
2570	2580	2590	2600	2610	2620	2630	2640
TTTATACTTT	GTAATGGACT	ACATTCTCTG	GGGTGATATG	ATGAGCCTAT	TAATTAGAAT	GGGCATCTTT	CCAGAAAGTC
L Y F	V M D	Y I P G	G D M	M S L	L I R M	G I F	P E S
2650	2660	2670	2680	2690	2700	2710	2720
TGGCACGATT	CTACATAGCA	GAACCTTACCT	GTGCAGTTGA	AAGTGTTTAT	AAAATGGGTT	TTATTCATAG	AGATATTAAA
L A R F	Y I A	E L T	C A V E	S V H	K M G	F I H R	D I K
2730	2740	2750	2760	2770	2780	2790	2800
CCTGATAATA	TTTTGATGTA	TCGTGATGGT	CATATTAAAT	TGACTGACTT	TGGCCTCTGC	ACTGGCTTCA	GATGGACACA
P D N	I L I D	R D G	H I K	L T D F	G L C	T G F	R W T H
2810	2820	2830	2840	2850	2860	2870	2880
CGATTCTAAG	TACTATCAGA	GTGGTGACCA	TCCACGGCAA	GATAGCATGG	ATTTCAGTAA	TGAATGGGGG	GATCCCTCAA
D S K	Y Y Q	S G D H	P R Q	D S M	D F S N	E W G	D P S
2890	2900	2910	2920	2930	2940	2950	2960
GCTGTCGATG	TGGAGACAGA	CTGAAGCCAT	TAGAGCGGAG	AGCTGCACGC	CAGCACCAGC	GATGTCTAGC	ACATTCTTTG
S C R C	G D R	L K P	L E R R	A A R	Q H Q	R C L A	H S L
2970	2980	2990	3000	3010	3020	3030	3040
GTTGGGACTC	CCAATTATAT	TGCACCTGAA	GTGTTGCTAC	GAACAGGATA	CACACAGTTG	TGTGATTGGT	GGAGTGTGG
V G T	P N Y I	A P E	V L L	R T G Y	T Q L	C D W	W S V G
3050	3060	3070	3080	3090	3100	3110	3120
TGTTATTCTT	TTTGAAATGT	TGGTGGGACA	ACCTCCTTTC	TTGGCACAAA	CACCATTAGA	AACACAAATG	AAGGTATATCA
V I L	F E M	L V G Q	P P F	L A Q	T P L E	T Q M	K V I

FIG. 12 (cont.)

3130 3140 3150 3160 3170 3180 3190 3200  
 \* \* \* \* \*  
 ACTGGCAAAC ATCTCTTCAC ATTCCACCAC AAGCTAAACT CAGTCCTGAA GCTTCTGATC TTATTATTAA ACTTTGCCGA  
 N W Q T S L H I P P Q A K L S P E A S D L I I K L C R  
 3210 3220 3230 3240 3250 3260 3270 3280  
 \* \* \* \* \*  
 GGACCCGAAG ATCGCTTAGG CAAGAATGGT GCTGATGAAA TAAAAGCTCA TCCATTTTTT AAAACAATTG ACTTCTCCAG  
 G P E D R L G K N G A D E I K A H P F F K T I D F S S  
 3290 3300 3310 3320 3330 3340 3350 3360  
 \* \* \* \* \*  
 TGACCTGAGA CAGCAGTCTG CTTCATACAT TCCTAAAATC ACACACCCAA CAGATACATC AAATTTTGAT CCTGTTGATC  
 D L R Q Q S A S Y I P K I T H P T D T S N F D P V D  
 3370 3380 3390 3400 3410 3420 3430 3440  
 \* \* \* \* \*  
 CTGATAAATT ATGGAGTGAT GATAACGAGG AAGAAAATGT AAATGACACT CTCAATGGAT GGTATAAAAA TGGAAAGCAT  
 P D K L W S D D N E E E N V N D T L N G W Y K N G K H  
 3450 3460 3470 3480 3490 3500 3510 3520  
 \* \* \* \* \*  
 CCTGAACATG CATTCTATGA ATTTACCTTC CGAAGGTTTT TTGATGACAA TGGCTACCCA TATAATTATC CGAAGCCTAT  
 P E H A F Y E F T F R R F F D D N G Y P Y N Y P K P I  
 3530 3540 3550 3560 3570 3580 3590 3600  
 \* \* \* \* \*  
 TGAATATGAA TACATTAATT CACAAGGCTC AGAGCAGCAG TCGGATGAAG ATGATCAAAA CACAGGCTCA GAGATTAAAA  
 E Y E Y I N S Q G S E Q Q S D E D D Q N T G S E I K  
 3610 3620 3630 3640 3650 3660 3670 3680  
 \* \* \* \* \*  
 ATCGCGATCT AGTATATGTT TAACACACTA GTAAATAAAT GTAATGAGGA TTTGTAAAAG GGCTGAAAT-GCGAGGTGTT  
 N R D L V Y V \*  
 3690 3700 3710 3720 3730 3740 3750 3760  
 \* \* \* \* \*  
 TTGAGGTTCT GAGAGTAAAA TTATGCAAAT ATGACAGAGC TATATATGTG TGCTCTGTGT ACAATATTTT ATTTTCTAA  
 3770 3780 3790 3800 3810 3820 3830 3840  
 \* \* \* \* \*  
 ATTATGGGAA ATCCTTTTAA AATGTTAATT TATTCCAGCC GTTTAAATCA GTATTTAGAA AAAAATTGTT ATAAGGAAAG  
 3850 3860 3870 3880 3890 3900 3910 3920  
 \* \* \* \* \*  
 TAAATTATGA ACTGAATATT ATAGTCAGTT CTTGGTACTT AAAGTACTTA AAATAAGTAG TGCTTTGTTT AAAAGGAGAA  
 3930 3940 3950 3960 3970 3980  
 \* \* \* \* \*  
 ACCTGGTATC TATTTGTATA TATGCTAAAT AATTTTAAAA TACAAGAGTT TTTGAAATTT TTTT

FIG. 12 (cont.)



10 20 30 40 50 60 70 80  
 GTGCAACATT CAATTAACCG AAAACAAAGC TGGAAAGGTT CTAAAGAGTC TCTAGTTCCT CAGAGACACG GCCCATCTCT  
 V Q H S I N R K Q S W K G S K E S L V P Q R H G P S L  
 90 100 110 120 130 140 150 160  
 AGGAGAAAAT GTGGTTTATC GTTCTGAAAG CCCCAACTCA CAGGCGGATG TAGGAAGACC TCTGTCTGGA TCCGGCATTG  
 G E N V V Y R S E S P N S Q A D V G R P L S G S G I  
 170 180 190 200 210 220 230 240  
 CAGCATTTGC TCAAGCTCAC CCAAGCAATG GACAGAGAGT GAACCCCCCA CCACCACCTC AAGTTAGGAG TGTACTCTCT  
 A A F A Q A H P S N G Q R V N P P P P P Q V R S V T P  
 250 260 270 280 290 300 310 320  
 CCACCACCTC CGAGAGGCCA GACCCCACTT CCCCAGGCA CCACTCCCCC TCCCCCTCA TGGGAACCAA GCTCTCAGAC  
 P P P P R G Q T P P P R G T T P P P P S W E P S S Q T  
 330 340 350 360 370 380 390 400  
 AAAGCGCTAC TCTGGGAACA TGGAGTACGT AATCTCCCGA ATCTCCCCTG TTCCACCTGG GCGGTGGCAG GAGGGGTACC  
 K R Y S G N M E Y V I S R I S P V P P G A W Q E G Y  
 410 420 430 440 450 460 470 480  
 CTCCACCAAC TCTTACCACT TCTCCCATGA ATCCCCCTAG CCAGGCTCAG AGGGCCATTA GTTCTGTTC AGTTGGTAGA  
 P P P P L T T S P M N P P S Q A Q R A I S S V P V G R  
 490 500 510 520 530 540 550 560  
 CAACCCATCA TCATGCAGAG TACTAGCAAA TTAACTTTA CACCAGGGCG ACCTGGAGTT CAGAATGGTG GTGGTCAGTC  
 Q P I I M Q S T S K F N F T P G R P G V Q N G G G Q S  
 570 580 590 600 610 620 630 640  
 TGATTTTATC GTGCACCAAA ATGTCCCCAC TGGTTCTGTG ACTCGGCAGC CACCACCTCC ATATCCTCTG ACCCCAGCTA  
 D F I V H Q N V P T G S V T R Q P P P P Y P L T P A  
 650 660 670 680 690 700 710 720  
 ATGGACAAAG CCCCTCTGCT TTACAAACAG GGGCTTCTGC TGCTCCACCA TCATTGCGCA ATGGAACCGT TCCTCAGTCG  
 N G Q S P S A L Q T G A S A A P P S F A N G N V P Q S  
 730 740 750 760 770 780 790 800  
 ATGATGGTGC CCAACAGGAA CAGTCATAAC ATGGAGCTTT ATAATATTAA TGTCCTGGA CTGCAACAG CCTGGCCCCA  
 M M V P N R N S H N M E L Y N I N V P G L Q T A W P Q  
 810 820 830 840 850 860 870 880  
 GTCGTCTTCT GCTCCTGCGC AGTCATCCCC AAGCGGTGGG CATGAAATTC CTACATGGCA ACCTAACATA CCAGTGAGGT  
 S S S A P A Q S S P S G G H E I P T W Q P N I P V R  
 890 900 910 920 930 940 950 960  
 CAAATCTTT TAATAACCA TTAGGAAGTA GAGCAAGTCA CTCTGCTAAT TCTCAGCCTT CTGCCACTAC AGTCACTGCG  
 S N S F N N P L G S R A S H S A N S Q P S A T T V T A

FIG. 13

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970	980	990	1000	1010	1020	1030	1040
ATCACACCCG	CTCCTATTCA	ACAGCCCGTG	AAAAGCATGC	GCGTCCTGAA	ACCAGAGCTG	CAGACTGCTT	TAGCCCCAAC
I T P	A P I Q	Q P V	K S M	R V L K	P E L	Q T A	L A P T
1050	1060	1070	1080	1090	1100	1110	1120
CCATCCTTCT	TGGATGCCAC	AGCCAGTTCA	GACTGTTTCA	CCTACCCCTT	TTTCTGAGGG	TACAGCTTCA	AGTGTGCTTG
H P S	W M P	Q P V Q	T V Q	P T P	F S E G	T A S	S V P
1130	1140	1150	1160	1170	1180	1190	1200
TCATCCCACC	TGTTGCTGAA	GCTCCAAGCT	ATCAAGGTCC	ACCACCGCCT	TATCCAAAAC	ATCTGCTACA	CCAAAACCCA
V I P P	V A E	A P S	Y Q G P	P P P	Y P K	H L L H	Q N P
1210	1220	1230	1240	1250	1260	1270	1280
TCTGTCCCTC	CATATGAGTC	AGTAAGTAAG	CCCTGCAAAG	ATGAACAGCC	TAGCTTACCC	AAGGAAGATG	ATAGTGAGAA
S V P	P Y E S	V S K	P C K	D E Q P	S L P	K E D	D S E K
1290	1300	1310	1320	1330	1340	1350	1360
GAGTGCGGAC	AGTGGTGACT	CTGGGGATAA	AGAAAAGAAA	CAGATTACAA	CTTCACCTAT	CACTGTTCCG	AAAAACAAGA
S A D	S G D	S G D K	E K K	Q I T	T S P I	T V R	K N K
1370	1380	1390	1400	1410	1420	1430	1440
AAGATGAAGA	ACGAAGAGAG	TCTCGGATTG	AGAGTTACTC	CCCACAGGCC	TTTAAGTTCT	TCATGGAGCA	GCACGTAGAG
K D E E	R R E	S R I	Q S Y S	P Q A	F K F	F M E Q	H V E
1450	1460	1470	1480	1490	1500	1510	1520
AACGTCTCTGA	AGTCTCATCA	GCAGCGTCTG	CATCGGAAGA	AGCAGCTAGA	AAATGAAATG	ATGCGGGTTG	GATTATCTCA
N V L	K S H Q	Q R L	H R K	K Q L E	N E M	M R V	G L S Q
1530	1540	1550	1560	1570	1580	1590	1600
AGATGCCCAG	GATCAAATGA	GAAAGATGCT	TTGCCAGAAA	GAGTCTAACT	ATATTGCTCT	TAAAAGGGCT	AAAATGGACA
D A Q	D Q M	R K M L	C Q K	E S N	Y I R L	K R A	K M D
1610	1620	1630	1640	1650	1660	1670	1680
AGTCTATGTT	TGTAAAGATA	AAGACATTAG	GAATAGGAGC	GTTTGGTGAA	GTCTGTCTAG	CAAGAAAAGT	CGATACTAAA
K S M F	V K I	K T L	G I G A	F G E	V C L	A R K V	D T K
1690	1700	1710	1720	1730	1740	1750	1760
GCTTGTATG	CAACAAAGAC	TCTTCGAAAG	AAAGACGTTG	TGCTCCGAAA	TCAGGTGGCT	CATGTGAAAG	CGGAGAGGGA
A L Y	A T K T	L R K	K D V	L L R N	Q V A	H V K	A E R D
1770	1780	1790	1800	1810	1820	1830	1840
TATCTAGCA	GAAGCCGACA	ATGAGTGGGT	GGTCCGCTTG	TACTACTCTT	TCCAGGACAA	GGACAACTTG	TACTTTGTGA
I L A	E A D	N E W V	V R L	Y Y S	F Q D K	D N L	Y F V
1850	1860	1870	1880	1890	1900	1910	1920
TGGACTACAT	TCCTGGGGGG	GATATGATGA	GOCTATTAAT	TAGAATGGGC	ATCTTTCTCTG	AAAATCTGGC	ACGATTCTAC
M D Y I	P G G	D M M	S L L I	R M G	I F P	E N L A	R F Y
1930	1940	1950	1960	1970	1980	1990	2000

FIG. 13 (cont.)

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ATAGCAGAAC TTACCTGTGC AGTTGAAAGT GTTCATAAAA TGGGTTTTAT TCATAGAGAT ATTAACCTG ATAACATTTT  
 I A E L T C A V E S V H K M G F I H R D I K P D N I L  
 2010 2020 2030 2040 2050 2060 2070 2080  
 GATTGACCGT GATGGCCATA TTAAATTGAC TGACTTTGGC TTGTGCACTG GCTTCAGATG GACACATGAC TCCAAGTACT  
 I D R D G H I K L T D F G L C T G F R W T H D S K Y  
 2090 2100 2110 2120 2130 2140 2150 2160  
 ACCAGAGTGG GGATCACCCA CGGCAAGATA GCATGGATTG CAGTAACGAA TGGGGAGATC CTTCCAATTG TCGGTGTGGG  
 Y Q S G D H P R Q D S M D F S N E W G D P S N C R C G  
 2170 2180 2190 2200 2210 2220 2230 2240  
 GACAGACTGA AGCCACTGGA GCGGAGAGCT GCTCGCCAGC ACCAGCGATG TCTAGCCCAT TCTCTGGTTG GGACTCCCAA  
 D R L K P L E R R A A R Q H Q R C L A H S L V G T P N  
 2250 2260 2270 2280 2290 2300 2310 2320  
 TTATATTGCA CCTGAAGTGC TACTGCGAAC AGGATATACA CAGCTGTGTG ACTGGTGGAG TGTGGTGTG ATTCTTTGTG  
 Y I A P E V L L R T G Y T Q L C D W W S V G V I L C  
 2330 2340 2350 2360 2370 2380 2390 2400  
 AAATGTTGGT GGGACAACCT CCTTTCTTGG CACAAACCCC ATTAGAAACA CAAATGAAGG TTATCATCTG GCAAACCTCT  
 E M L V G Q P P F L A Q T P L E T Q M K V I I W Q T S  
 2410 2420 2430 2440 2450 2460 2470 2480  
 CTACACATCC CTCTCAAGC TAAGCTGAGT CCTGAAGCCT CTGACCTCAT TATCAAACCTG TGTCGAGGAC CAGAAGACCG  
 L H I P P Q A K L S P E A S D L I I K L C R G P E D R  
 2490 2500 2510 2520 2530 2540 2550 2560  
 CCTCGGCAAG AACGGTGCTG ATGAGATAAA GGCTCATCCA TTTTAAAGA CCATCGATTT CTCTAGTGAT CTGAGACAGC  
 L G K N G A D E I K A H P F F K T I D F S S D L R Q  
 2570 2580 2590 2600 2610 2620 2630 2640  
 AGTCTGCTTC ATACATCCCT AAAATCACGC ATCCAACAGA TACATCCAAT TTCGACCCTG TTGATCCTGA TAAATTGTGG  
 Q S A S Y I P K I T H P T D T S N F D P V D P D K L W  
 2650 2660 2670 2680 2690 2700 2710 2720  
 AGCGATGGCA GCGAGGAGGA AAATATCAGT GACACTCTGA GCGGATGGTA TAAAAATGGG AAGCACCCCG AGCACGCTTT  
 S D G S E E E N I S D T L S G W Y K N G K H P E H A F  
 2730 2740 2750 2760 2770 2780 2790 2800  
 CTATGAGTTC ACCTTTCGGA GGTTTTTTGA TGACAATGGC TACCCATATA ATTATCCAAA GCCTATTGAG TATGAATACA  
 Y E F T F R R F F D D N G Y P Y N Y P K P I E Y E Y  
 2810 2820 2830 2840 2850 2860 2870 2880  
 TTCATTACA GGGCTCAGAA CAACAGTCTG ATGAAGATGA TCAACACACA AGCTCCGATG GAAACAACCG AGATCTAGTG  
 I H S Q G S E Q Q S D E D D Q H T S S D G N N R D L V  
 2890 2900 2910 2920 2930 2940 2950 2960  
 TATGTTTAAT AAACCTAGGAG ATCATGTGAA GAATTTGCAA GAGGCCTGAA GTGCAGGGGT TTTTGAAGTT TTGAGAAAAT  
 Y V \*

FIG. 13 (cont.)

2970	2980	2990	3000	3010	3020	3030	3040
*	*	*	*	*	*	*	*
TATGCAATG	TGACAGAGTT	TGTGTGCTCT	GTGTACAATA	TTTTATTTTC	CTAAGTTATG	GGAAATTGTT	TTAAAATGTT
3050	3060	3070	3080	3090	3100	3110	3120
*	*	*	*	*	*	*	*
AATTTATTCC	ACCCTTTTAA	TTCAGTAATT	TAGAAAAAAT	TGTTATAAGG	AAAGTAAATT	ATGAACTGAG	TATTATAGTC
3130	3140	3150	3160	3170	3180	3190	3200
*	*	*	*	*	*	*	*
AATTCTTGGT	ACTTAAAGTA	CTTAAAAAGA	GAAGCCTGGT	ATCTTTTGTA	TATATAATAA	ATAATTTTAA	AATCCCAAAA
3210							
*							
AAAAAAAAAA	AAA						

FIG. 13 (cont.)

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10	20	30	40	50	60	70	80
ATGAGAGCCA	CCCCGAAGTT	TGGACCTTAT	CAAAAAGCTC	TCAGGGAAAT	CCGATATTCC	CTCCTGCCTT	TTGCCAACGA
M R A	T P K F	G P Y	Q K A	L R E I	R Y S	L L P	F A N E
90	100	110	120	130	140	150	160
GTCAGGCACT	TCGGCAGCTG	CAGAGGTGAA	CCGGCAGATG	CTTCAGGAGT	TGGTGAATGC	GGCATGTGAC	CAGGAGATGG
S G T	S A A	A E V N	R Q M	L Q E	L V N A	A C D	Q E M
170	180	190	200	210	220	230	240
CTGGCAGAGC	GCTCAAGCAG	ACGGGCAGTA	GGAGTATCGA	AGCTGCCTTG	GAGTACATCA	GTAAGATGGG	CTACCTGGAC
A G R A	L T Q	T G S	R S I E	A A L	E Y I	S K M G	Y L D
250	260	270	280	290	300	310	320
CCCAGGAATG	AGCAGATTGT	GCGAGTCATC	AAGCAGACCT	CCCCAGGAAA	GGGCCTGGCG	TCCACCCCGG	TGACTCGGCG
P R N	E Q I V	R V I	K Q T	S P G K	G L A	S T P	V T R R
330	340	350	360	370	380	390	400
GCCAGTTTC	GAGGGCACAG	GGGAAGCACT	CCCATCCTAC	CACCAGCTGG	GTGGTGCAAA	CTACGAGGGC	CCCGCCGCAC
P S F	E G T	G E A L	P S Y	H Q L	G G A N	Y E G	P A A
410	420	430	440	450	460	470	480
TGGAGGAGAT	GCCGCGGCAA	TATTTAGACT	TTCTCTTCCC	TGGAGCCGGA	GCCGGCACCC	ACGGTGCCCA	GGCTCACCAG
L E E M	P R Q	Y L D	F L F P	G A G	A G T	H G A Q	A H Q
490	500	510	520	530	540	550	560
CATCCTCCCA	AAGGGTACAG	CACAGCAGTA	GAGCCAAGTG	CGCACTTTCC	GGGCACACAC	TATGGTGGTG	GTCATCTACT
H P P	K G Y S	T A V	E P S	A H F P	G T H	Y G R	G H L L
570	580	590	600	610	620	630	640
ATCGGAGCAG	TCTGGGTATG	GGGTGCAGCG	CAGTTCTCTC	TTCCAGAACA	AGACGCCACC	AGATGCCTAT	TCCAGCATGG
S E Q	S G Y	G V Q R	S S S	F Q N	K T P P	D A Y	S S M
650	660	670	680	690	700	710	720
CCAAGGCCCA	GGGTGGCCCT	CCCGCCAGCC	TCACCTTTCC	TGCCCATGCT	GGGCTGTACA	CTGCCTCGCA	CCACAAGCCG
A K A Q	G G P	P A S	L T F P	A H A	G L Y	T A S H	H K P
730	740	750	760	770	780	790	800
GCGGCTACCC	CACCTGGGGC	CCACCCATTA	CATGTGTTGG	GCACCCGGGG	TCCACGTTT	ACTGGCGAAA	GCTCTGCACA
A A T	P P G A	H P L	H V L	G T R G	P T F	T G E	S S A Q
810	820	830	840	850	860	870	880
GGCTGTGCTG	GCACCGTCCA	GGAACAGCCT	CAATGCTGAC	TTGTACGAGC	TGGGCTCCAC	GGTGCCCTGG	TCTGCAGCTC
A V L	A P S	R N S L	N A D	L Y E	L G S T	V P W	S A A
890	900	910	920	930	940	950	960
CACTGGCAGC	CCGCGACTCG	CTGCAGAAGC	AGGGTCTAGA	AGCCTCGCGG	CCGCATGTGG	CTTTTCGGGC	TGGCCCCAGC
P L A R	R D S	L Q K	Q G L E	A S R	P H V	A F R A	G P S

FIG. 14

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970	980	990	1000	1010	1020	1030	1040
AGGACCAACT	CCTTCAACAA	CCCACAACCT	GAGCCCTCAC	TGCCCGCCCC	CAACACGGTC	ACCGCCGTGA	CGGCCGCACA
R T N	S F N N	P Q P	E P S	L P A P	N T V	T A V	T A A H
1050	1060	1070	1080	1090	1100	1110	1120
CATCCTTCAC	CCTGTGAAGA	GCGTGCGTGT	GCTGCGGCCC	GAGCCCCAGA	CAGCCGTGGG	GCCCTCGCAC	CCCGCCTGGG
I L H	P V K	S V R V	L R P	E P Q	T A V G	P S H	P A W
1130	1140	1150	1160	1170	1180	1190	1200
TGGCTGCGCC	CACAGCACCT	GCCACTGAGA	GCCTGGAGAC	GAAGGAGGGC	AGCGCAGGCC	CACACCCGCT	GGATGTGGAC
V A A P	T A P	A T E	S L E T	K E G	S A G	P H P L	D V D
1210	1220	1230	1240	1250	1260	1270	1280
TATGGCGGCT	CCGAGCGCAG	GTGCCCACCG	CCTCCGTATC	CAAAGCACTT	GCTGCTGCCC	AGTAAGTCTG	AGCAGTACAG
Y G G	S E R R	C P P	P P Y	P K H L	L L P	S K S	E Q Y S
1290	1300	1310	1320	1330	1340	1350	1360
CGTGGACCTG	GACAGCCTGT	GCACCACTGT	GCAGCAGAGT	CTGCGAGGGG	GCACTGATCT	AGACGGGAGT	GACAAGAGCC
V D L	D S L	C T S V	Q Q S	L R G	G T D L	D G S	D K S
1370	1380	1390	1400	1410	1420	1430	1440
ACAAAGGTGC	GAAGGGAGAC	AAAGCTGGCA	GAGACAAAAA	GCAGATTCAG	ACCTCCCCGG	TGCTGTCCG	CAAGAATAGC
H K G A	K G D	K A G	R D K K	Q I Q	T S P	V P V R	K N S
1450	1460	1470	1480	1490	1500	1510	1520
AGAGATGAAG	AGAAGAGAGA	GTCTCGCATC	AAGAGTTACT	CCCCTTATGC	CTTCAAATTC	TTCATGGAGC	AACACGTGGA
R D E	E K R E	S R I	K S Y	S P Y A	F K F	F M E	Q H V E
1530	1540	1550	1560	1570	1580	1590	1600
GAATGTCATC	AAAACCTACC	AGCAGAAGGT	CAGCCGGAGG	CTACAGCTGG	AGCAGGAAAT	GGCCAAAGCT	GGGCTCTGTG
N V I	K T Y	Q Q K V	S R R	L Q L	E Q E M	A K A	G L C
1610	1620	1630	1640	1650	1660	1670	1680
AGGCCGAGCA	GGAGCAGATG	AGGAAGATCC	TCTACCAGAA	GGAGTCTAAC	TACAACCGGC	TGAAGAGGGC	CAAGATGGAC
E A E Q	E Q M	R K I	L Y Q K	E S N	Y N R	L K R A	K M D
1690	1700	1710	1720	1730	1740	1750	1760
AAGTCCATGT	TTGTGAAAAT	CAAGACTCTA	GGCATCGGTG	CCTTTGGGGA	AGTGTGCCTC	GCTTGTAAGC	TGGACACTCA
K S M	F V K I	K T L	G I G	A F G E	V C L	A C K	L D T H
1770	1780	1790	1800	1810	1820	1830	1840
CGCTCTGTAC	GCCATGAAGA	CTCTCAGGAA	GAAGGATGTC	CTGAACCGGA	ATCAAGTGGC	CCATGTCAAG	GCTGAGAGGG
A L Y	A M K	T L R K	K D V	L N R	N Q V A	H V K	A E R
1850	1860	1870	1880	1890	1900	1910	1920
ACATCCTGGC	TGAAGCAGAC	AATGAGTGGG	TGGTCAAACCT	CTACTACTCC	TTCCAGGACA	AGGACAGCCT	GTA CTTTGTG
D I L A	E A D	N E W	V V K L	Y Y S	F Q D	K D S L	Y F V
1930	1940	1950	1960	1970	1980	1990	2000

FIG. 14 (cont.)

ATGGACTACA	TACCAGGCGG	GGATATGATG	AGCCTGCTGA	TCAGGATGGA	GGTCTTCCCT	GAGCACCTGG	CCCGCTTCTA
M D Y	I P G G	D M M	S L L	I R M E	V F P	E H L	A R F Y
2010	2020	2030	2040	2050	2060	2070	2080
CATTGCAGAG	TTGACCCTGG	CCATTGAAAG	TGTCCACAAG	ATGGGCTTTA	TCCACCGGGA	CATCAAGCCT	GACAACATAC
I A E	L T L	A I E S	V H K	M G F	I H R D	I K P	D N I
2090	2100	2110	2120	2130	2140	2150	2160
TCATCGACCT	GGATGGTCAT	ATTAAGCTGA	CAGATTTTGG	CCTCTGCACT	GGATTCAAGT	GGACTCACAA	TTCCAAGTAC
L I D L	D G H	I K L	T D F G	L C T	G F R	W T H N	S K Y
2170	2180	2190	2200	2210	2220	2230	2240
TACCAGAAAG	GGAACCACAT	GAGACAGGAC	AGCATGGAGC	CCGGTGACCT	CTGGGACGAT	GTTTCCAAC	GTCGCTGTGG
Y Q K	G N H M	R Q D	S M E	P G D L	W D D	V S N	C R C G
2250	2260	2270	2280	2290	2300	2310	2320
AGACAGGTTA	AAGACCCTGG	AGCAGAGGGC	GCAGAAGCAG	CACCAGAGGT	GCCTGGCACA	TTCTCTTGTC	GGGACACCAA
D R L	K T L	E Q R A	Q K Q	H Q R	C L A H	S L V	G T P
2330	2340	2350	2360	2370	2380	2390	2400
ATTACATCGC	TCCGGAGGTG	CTTCTCCGCA	AAGGGTACAC	GCAGCTCTGT	GACTGGTGGG	GCGTCGGTGT	GATTCTCTTT
N Y I A	P E V	L L R	K G Y T	Q L C	D W W	S V G V	I L F
2410	2420	2430	2440	2450	2460	2470	2480
GAGATGCTGG	TTGGGCAGCC	GCCTTTCTTG	GCCCCACCC	CCACAGAGAC	GCAGCTGAAG	GTGATCAACT	GGGAGAGCAC
E M L	V G Q P	P F L	A P T	P T E T	Q L K	V I N	W E S T
2490	2500	2510	2520	2530	2540	2550	2560
GCTGCATATC	CCTACGCAGG	TGAGGCTCAG	CGCTGAGGCC	CGAGACCTCA	TCACGAAGCT	GTGCTGCGCG	GCTGACTGCC
L H I	P T Q	V R L S	A E A	R D L	I T K L	C C A	A D C
2570	2580	2590	2600	2610	2620	2630	2640
GCCTGGGCAG	GGATGGGGCA	GATGACCTCA	AGGCACACCC	GTTCTTCAAC	ACCATCGACT	TTTCCCGTGA	CATCCGAAAG
R L G R	D G A	D D L	K A H P	F F N	T I D	F S R D	I R K
2650	2660	2670	2680	2690	2700	2710	2720
CAGGCTGCAC	CCTACGTCCC	CACCATCAGC	CACCCCATGG	ACACCTCCAA	TTTGTACCCG	GTGGATGAAG	AAAGCCCCTG
Q A A	P Y V P	T I S	H P M	D T S N	F D P	V D E	E S P W
2730	2740	2750	2760	2770	2780	2790	2800
GCACGAGGCC	AGCGGAGAGA	GCGCCAAGGC	CTGGGACACG	CTGGCCTCCC	CCAGCAGCAA	GCATCCAGAG	CACGCCTTCT
H E A	S G E	S A K A	W D T	L A S	P S S K	H P E	H A F
2810	2820	2830	2840	2850	2860	2870	2880
ATGAGTTCAC	CTTCCGCAGG	TTCTTGGATG	ACAACGGCTA	TCCCTTCCGG	TGCCCCAAGC	CCTCAGAGCC	CGCAGAGAGT
Y E F T	F R R	F F D	D N G Y	P F R	C P K	P S E P	A E S
2890	2900	2910	2920	2930	2940	2950	2960
GCAGACCCAG	GGGATGCGGA	CTTGAAGGT	GCGGCGGAGG	GCTGCCAGCC	GGTGTAGCTG	TAAGCCTCAG	TTAACCACAA
A D P	G D A D	L E G	A A E	G C Q P	V Y V	*	

FIG. 14 (cont.)

2970	2980	2990	3000	3010	3020	3030	3040
CTCGAGGAAA	CCCAAAATGA	GATTTCCTTT	CAGAAGACAA	ACTCAAGCTT	AGGAATCCTT	CATTTTtagT	TCTGGTAAAT
3050	3060	3070	3080	3090	3100	3110	3120
GGGCAACAGG	AAGAGTCAAC	ATGATTTCAA	ATTAGCCCTC	TGAGGACCTT	CACTGCATTA	AAACAGTATT	TTTAAAAAA
3130	3140	3150					
TTAGTACAGT	ATGGAAGAG	CACTTATTTT	GGGGG				

FIG. 14 (cont.)

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FIG. 15